



# Harbormaster and Visiting Boater Center Feasibility Study

City of Gloucester  
Public Meeting - October 3<sup>rd</sup>, 2017

Harriman | CLE Engineering

# Purpose of the Study

*This is a **Feasibility Study** for both the **Harbormaster facilities and co-located visitor boating facilities** within Gloucester Harbor.*

*This study is being undertaken to confirm the facility needs for the future, confirm the best location for these facilities, and provide cost estimates and related information to support future grant applications and capital funding. This is a focused study associated with these specific uses, and does not extend to facilities for other existing or potential Gloucester Harbor activities.*

# Study Team

*The process is being conducted with the assistance of the Harbormaster and City Staff, and the steering committee includes Chair of the Waterways Board and Director of Public Works as members.*

*The planning process is being carried out with the assistance of a professional team of planners, architects, and engineers with specialized expertise in the siting and design of similar facilities. The team is composed of Harriman, a multi-disciplinary planning and engineering firm, with marine engineering assistance provided by CLE Engineering.*

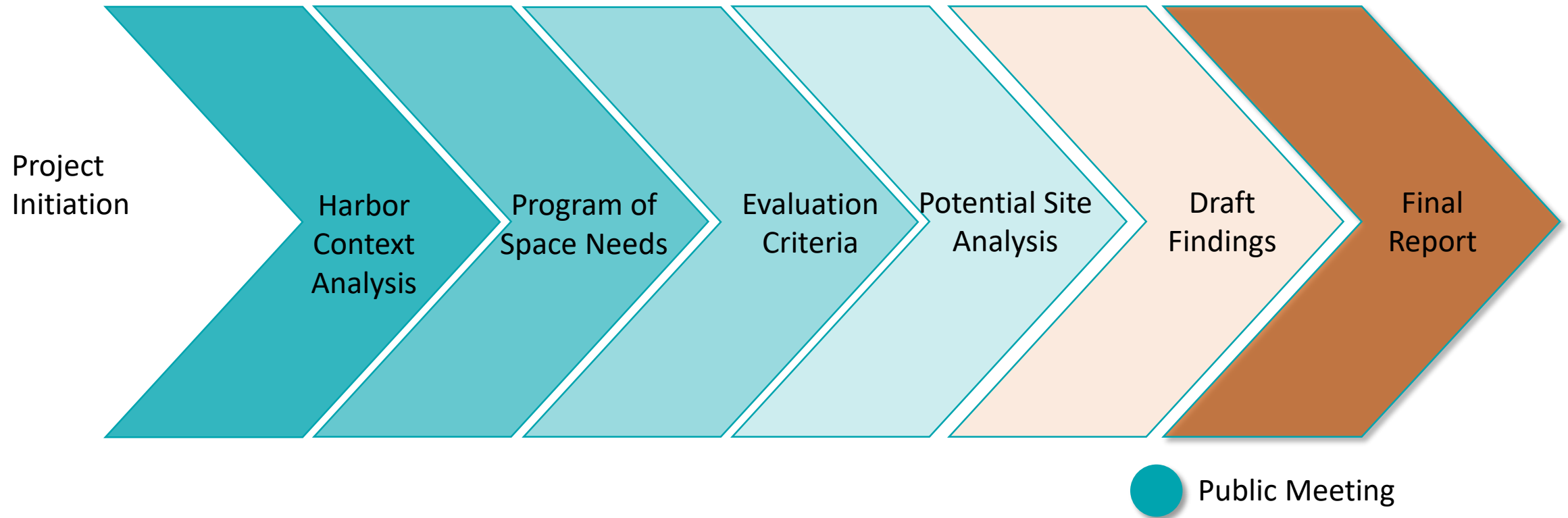


# Process

*The process has included:*

- *Reviews of previous plans and reports*
- *Confirmation of potential sites to be considered*
- *Interviews with various stakeholders*
- *Assembly and evaluation of site information and waterside conditions*
- *Preparation of the space needs requirements (landside and waterside)*
- *Feasibility studies of candidate sites*
- *Comparative evaluations based on criteria*

# Process





# Potential Sites Considered

Sites were chosen that were presumed to be available because of City ownership or available through lease or sale when the study was initiated.

- 19 Harbor Loop (current Harbormaster facility)
- 104 Commercial Street (Cape Pond Ice)
- 112 Commercial Street
- 65-65R Rogers Street (I4C2 Parcel)
- 417 Main Street
- 6 Cripple Cove Lane





# HARBOR CONTEXT: Chapter 91/ DPA

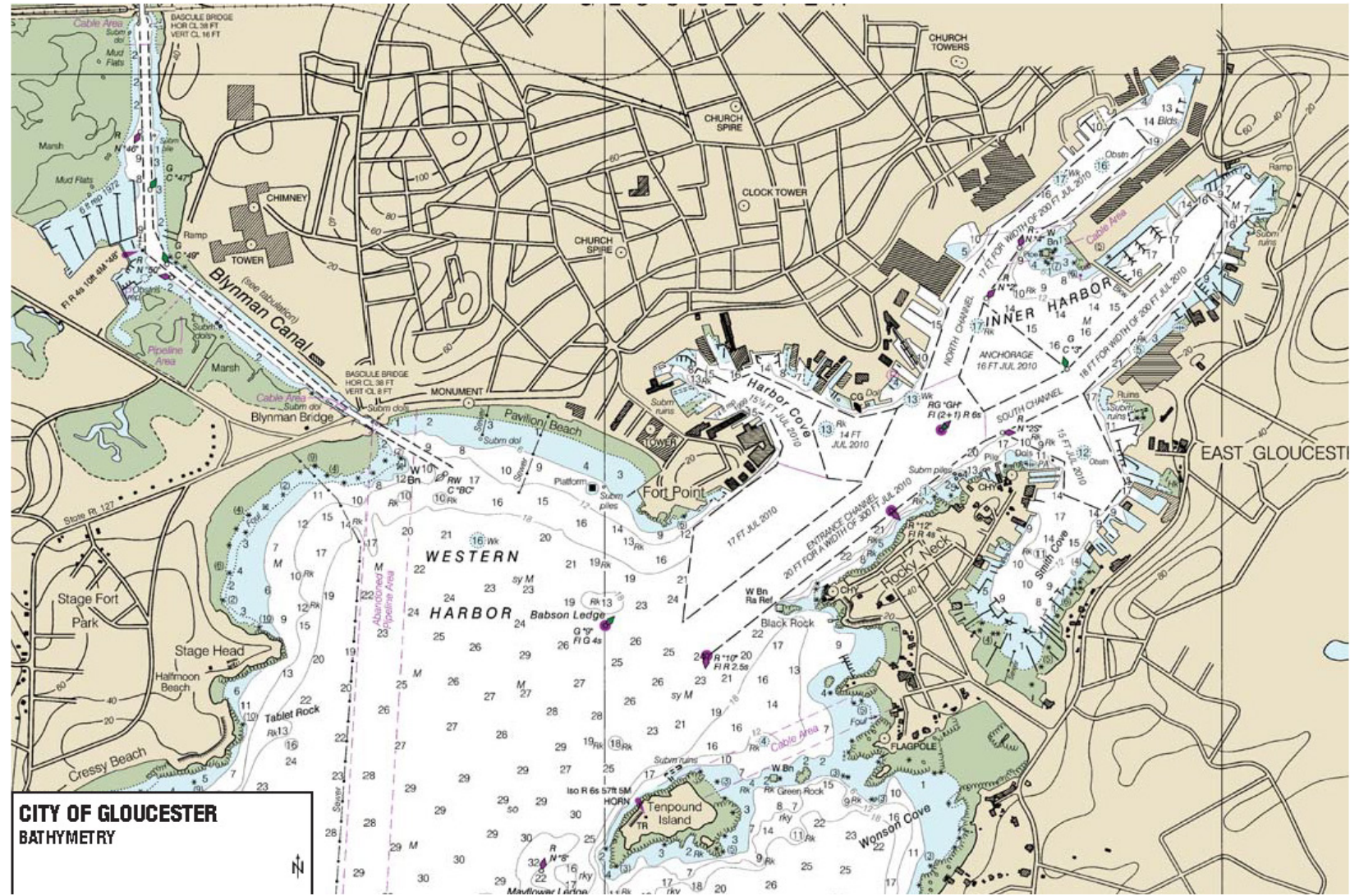
- All sites are within the Chapter 91 jurisdiction boundary
- All sites are within the Designated Port Area (DPA) boundary except 112 Commercial Street and 6 Cripple Cove Lane





# HARBOR CONTEXT: Depth and Channels

The facilities will need to have enough unobstructed water at low tide to accommodate visiting vessels with a moderate draft (at least 6 feet).





# Program of Space Requirements

- *The “program” is the list of space requirements and functional relationships that the facilities should ideally contain to meet current and anticipated needs.*
- *The program for the Harbormaster and visiting boat facilities was created through an evaluation of the existing operations and spaces, interviews with City staff, and comparisons with other similar facilities.*
- *The detailed program breaks down all of the component needs.*

# Program of Space Requirements: Landside

HARBORMASTER FACILITY	FUNCTION	REQUIREMENTS AND NEEDS	DESCRIPTION/ NOTES	UNITS	SQ FT/ UNIT	TOTAL SQ FT
<b>OFFICE AND SUPPORT SPACE</b>						
Harbormaster Office	Daily work space	1 office for one person	Space for a desk, shelves, 2 or 3 chairs, and a working table	1	150	150
Staff Offices	Daily work space	4 offices for staff	Space for a desk, shelves, chairs, and communications equipment	4	100	400
Meeting Space	Meeting area	Up to 20 people	Estimated at 20 sqft per seating person	20	20	400
Office Storage	File storage	2 office spaces for file storage	Space for file cabinets, and office equipment	2	100	200
Equipment Storage	Boat and mooring equipment	1 boat up to 26 feet, and mooring equipment	Estimated at 300 sqft per boat, plus estimated additional 200 sqft space for mooring equipment and circulation	1	300	500
				1	200	
Lobby/Reception/Waiting Area	Seating area for public	Small seating area for people waiting for appointments	Estimated at 25 sqft per seating person, seating for 4 people	4	25	100
Administrative Assistant Area	Work space on the ground floor	Desk space next to reception/waiting area	Space for a desk, shelves, and 2 chairs	1	100	100
Restrooms	Office restrooms	2 staff restrooms	2 ADA accessible, individual restrooms	2	50	100
Mechanical/Maintenance	Maintenance workshop	Small maintenance workshop area, shelves, benches	Space for shelves, cabinets, a working table/ counter, and circulation	1	200	200
Pantry/Kitchenette/Lunch Room	Food storage and eating	Counter, sink, shelves, refrigerator, table and chairs	Could be located near the meeting space for food service	1	200	200
Mechanical/Utility Room			Space for HVAC, hot water, telephone, utility equipment	1	150	150
Subtotal Net Office and Support Space			Sum of Above Space Requirements			2,500
Circulation/Miscellaneous			Estimated at 25% of net square footage for office/support space			625
			<b>SUBTOTAL OFFICE AND SUPPORT SPACE</b>			<b>3,125</b>
<b>VISITING BOATER CENTER</b>						
Lounge	Transient boaters lounge	15' x 30' lounge	Access to WIFI and has a television	1	450	450
Restrooms	Visitor restrooms	2 ADA-accessible restrooms	One individual male and female	2	50	100
Temporary Storage	Visitor temporary storage	Locker room storage	Lockers	1	40	40
Showers	Showers	2 ADA-accessible showers	One individual male and female	2	80	160
Changing Rooms	Visitor changing rooms	2 small changing rooms	One individual male and female	2	50	100
Subtotal Net Visiting Boater Center			Sum of Above Space Requirements			850
Circulation/Miscellaneous			Estimated at 25% of net square footage for visiting boater center			213
			<b>SUBTOTAL VISITING BOATER CENTER</b>			<b>1,063</b>



# Program of Space Requirement: Waterside

HARBORMASTER FACILITY	FUNCTION	REQUIREMENTS AND NEEDS	DESCRIPTION/ NOTES	UNITS	SQFT/ UNIT	TOTAL SQFT
PARKING AND CIRCULATION *						
Staff Parking	Parking for staff	5 staff parking spaces and 1 boat trailer space	Estimated at 300 sqft per parking space (including vehicle circulation and maneuvering space), 600 sqft per trailer space (including circulation and maneuvering for a car/truck plus trailer)	5	300	2,100
				1	600	
Visitor Parking	Parking for visitors	4 visitor parking spaces	Estimated at 300 sqft per parking space (including vehicle circulation and maneuvering space)	4	300	1,200
Bicycle Facilities (Racks/Storage)		Small bike rack and/or storage space	Estimated space for 4-bike storage rack (including circulation)	1	50	50
Subtotal Net Parking and Circulation			Sum of Above Space Requirements			3,350
Pedestrian Access/ Landscaping			Estimated at 35% of net square footage for parking and circulation			1,172
			SUBTOTAL PARKING AND CIRCULATION*			4,522
WATERSIDE ACCESS AND DOCKING**						
Vessel Docking	Docking for Harbormaster boats and transient boaters	Docking for 6 Harbormaster-owned boats and 10 transient boats various lengths	Included in slips configuration below			
Slips (Vessel Number, Maximum Length, Draft)	Slips	15 slips total max length 50 ft max draft 6 ft	17,000 sqft assumed, depending on configuration*			17,000
Dinghies	Slips	15 dinghy spots 2 ft draft	40’x8’ dock assumed, with docking on both sides*			1,120
Launches	1 launch	1 City-owned launch 26 ft	A boat that transports passengers and/or mooring equipment			280
Float Dimension Requirements	Floats	All floats min of 6’x 20’ compared to existing setup				
			SUBTOTAL WATERSIDE ACCESS AND DOCKING**			18,400
SUMMARY						
			TOTAL BUILDING AREA (Harbormaster Office and Visiting Boater Center)			4,200
		TOTAL [MINIMUM] SITE AREA (Estimated building footprint, parking, circulation and landscaping)				8,700
		TOTAL WATERSIDE AREA (Docking for 6 Harbormaster vessels, 10 transient boats, 15 visiting boater slips, and 15 dinghies)				18,400

# Program Summary

***Harbormaster Facilities (Landside)***

Harbormaster Office and Support Space	±3,125 square feet
Visiting Boater Facilities	±1,050 square feet
<b>Total for Harbormaster Facilities (Landside)</b>	<b>±4,175 square feet</b>

***Parking***

Staff Parking	5 parking spaces
Staff Parking	1 boat trailer space
Visitor Parking	4 parking spaces
Bike rack and storage space	

***Minimum Waterside Requirements***

Vessel Docking	6 Harbormaster-owned boats
Launch	1 City-owned launch – 26 feet

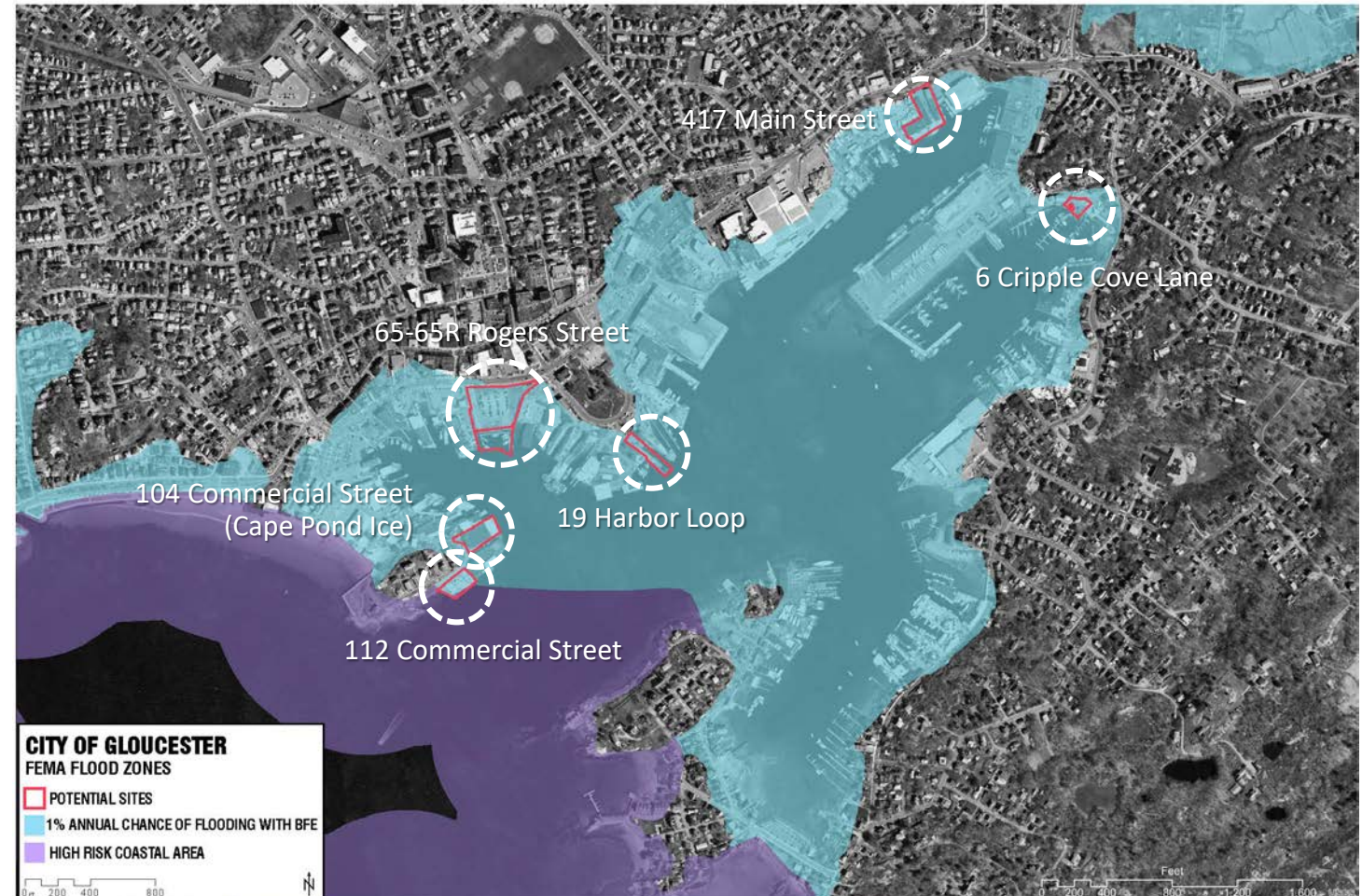
***Desirable Additional Waterside Requirements***

Transient Vessels - Slips	15 slips (Total maximum length 50 feet, maximum draft 6 feet)
Dinghies	15 spots (draft 2 feet)



# Site Analysis and Fit Studies

- 19 Harbor Loop (current Harbormaster facility)
- 104 Commercial Street (Cape Pond Ice)
- 112 Commercial Street
- 65-65R Rogers Street (I4C2 Parcel)
- 417 Main Street
- 6 Cripple Cove Lane





# 19 Harbor Loop

(Current Harbormaster Facility)

- Owned by Massachusetts Electric Company, rented by the City
- Good landside access
- Excellent waterside access and visibility
- Inside DPA boundary
- Site is within the FEMA 100-year flood plain

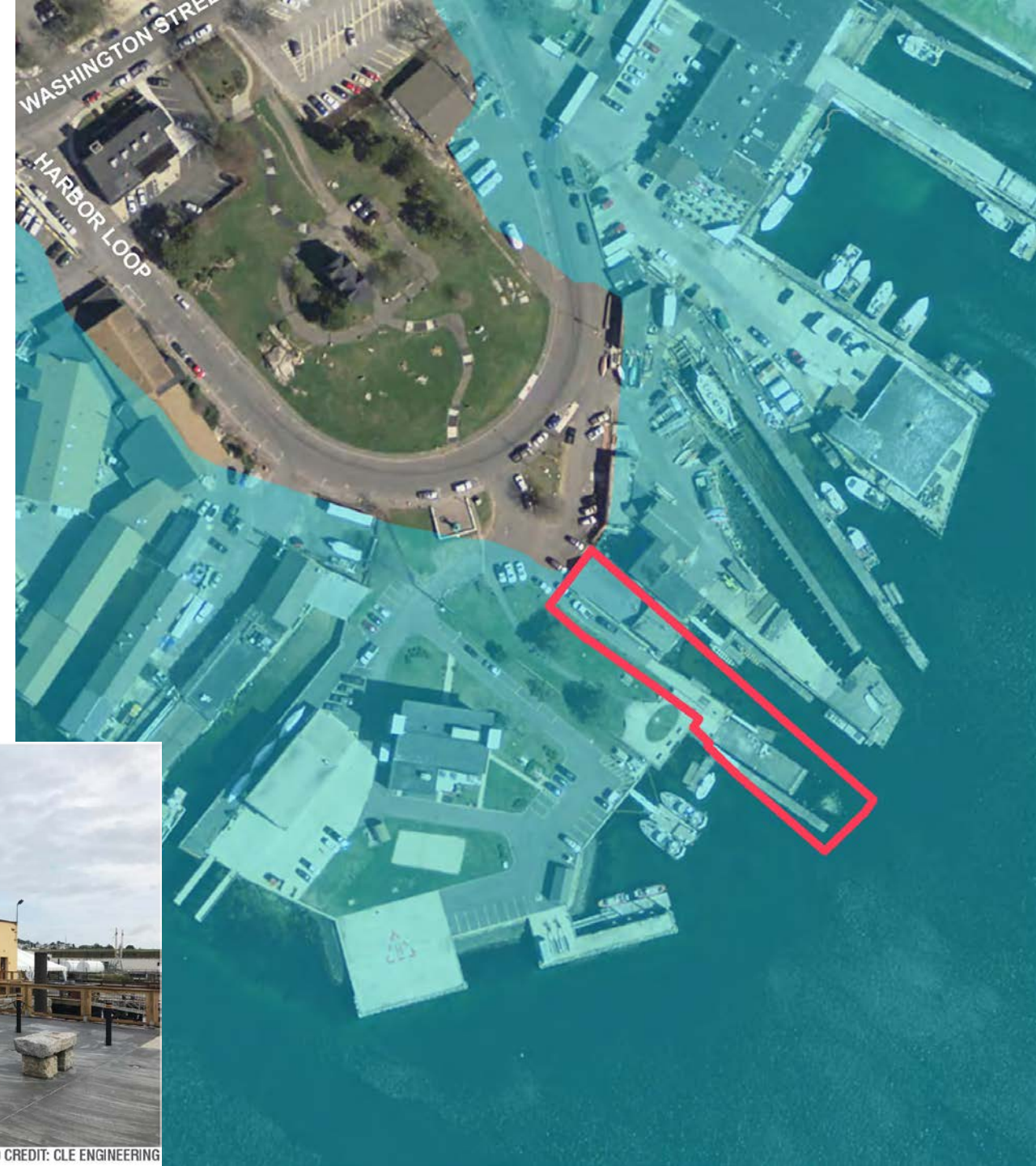


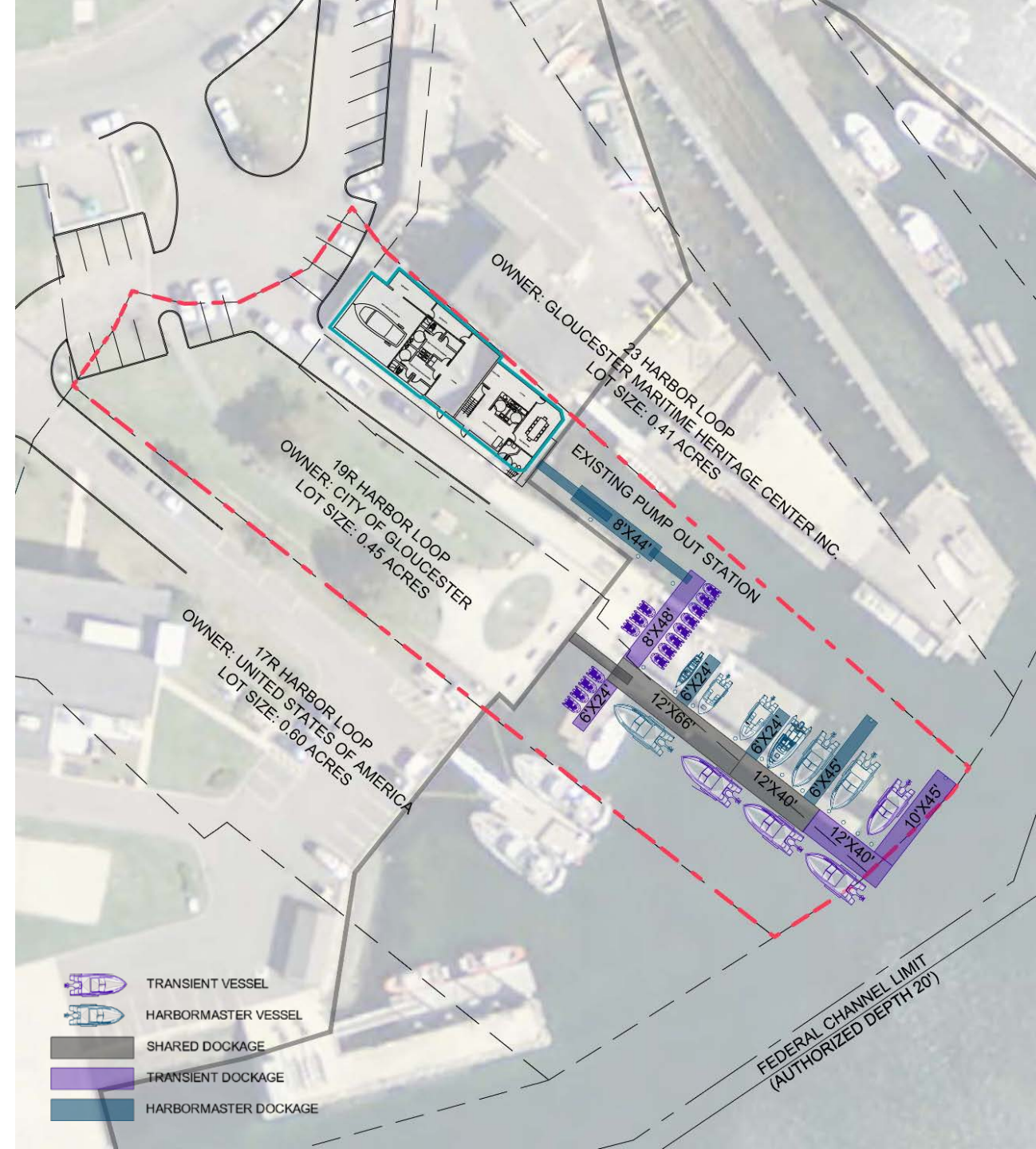
PHOTO CREDIT: CLE ENGINEERING



# 19 Harbor Loop

## (Current Harbormaster Facility)

- Building areas can be improved to provide for all Harbormaster and visiting boater facility needs, with some flood-resistant measures on the ground level.
- Waterside capacity matches minimum program requirements
- Existing waterside infrastructure including new floats and boat pump out facility
- Proximity to Coast Guard Station
- Estimated project cost for additional improvements: approximately \$1.3 million
- Comparative cost basis, including net present value of the 30-year lease: **approximately \$2.4 million**



# 19 Harbor Loop

## (Current Harbormaster Facility)

- Two level facility with visiting boater center on the first level and Harbormaster's offices on the second level
- Visiting boater center spaces could be used flexibly





# 104 Commercial Street

## (Cape Pond Ice Site)

- Privately-owned; recently purchased and now assumed to be no longer on the market
- Limited landside access and visibility from Commercial Street
- Limited waterside access (no floating docks available)
- Inside DPA boundary
- Site is within the FEMA 100-year flood plain



PHOTO CREDIT: CLE ENGINEERING

# 104 Commercial Street

(Cape Pond Ice Site)

- Adequate space for landside facilities
- Insufficient space for waterside infrastructure
- Waterside infrastructure will require deauthorization of the portion of the Federal Channel
- Estimated project cost for additional improvements including waterside improvements: approximately \$3.8 million
- Comparative cost basis, including acquisition cost: **approximately \$4.9 million**





# 112 Commercial Street (City-Owned)

- Owned by the City of Gloucester
- Limited landside access and visibility from Commercial Street
- Good waterside access, but waterside area constrained by distance to Federal Channel
- Landside out of DPA boundary
- Site is within the FEMA 100-year flood plain

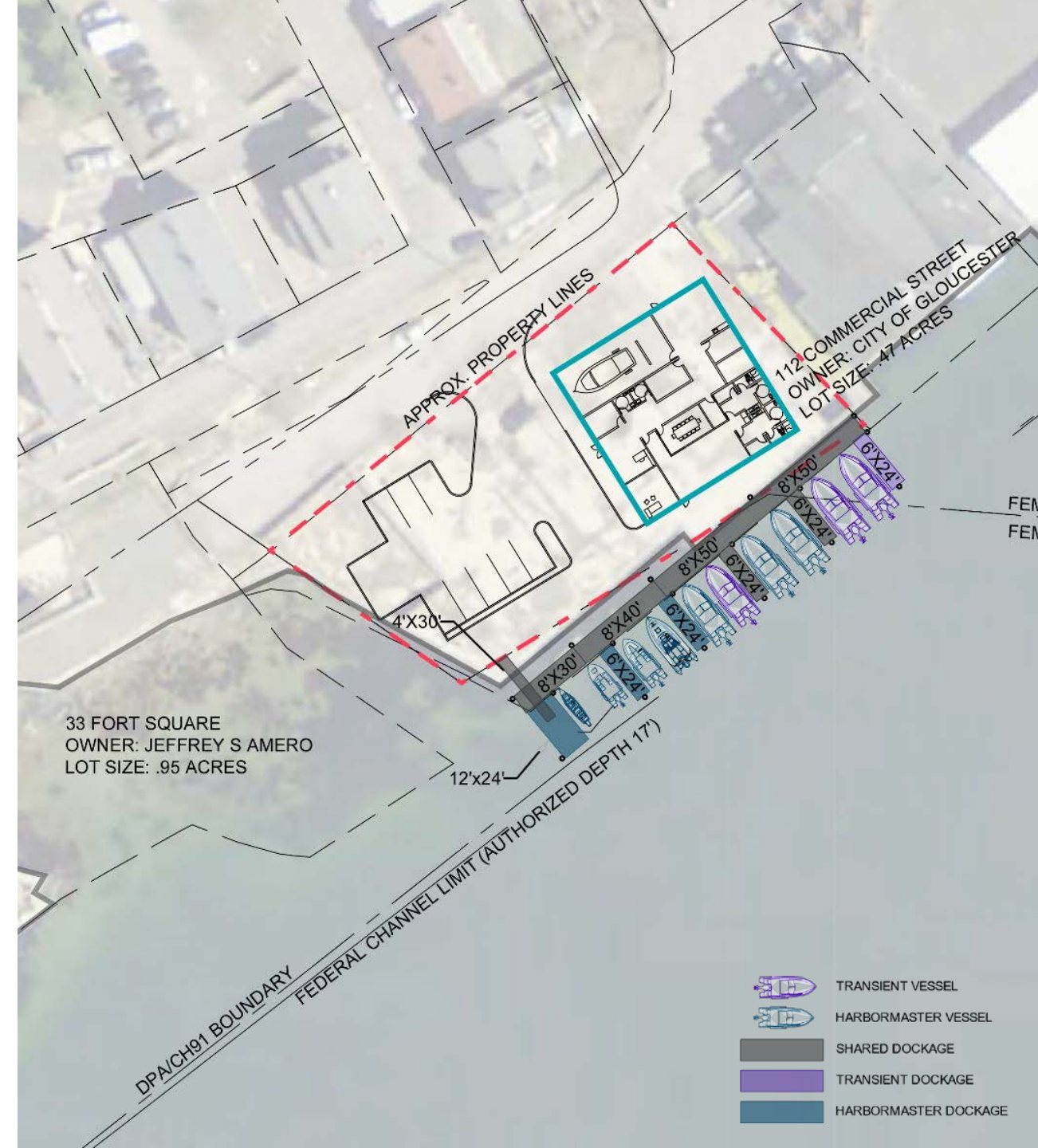


PHOTO CREDIT: CLE ENGINEERING



# 112 Commercial Street (City-Owned)

- Adequate space for landside facilities
- Severe wave exposure
- Insufficient space for waterside infrastructure
- Waterside infrastructure will require deauthorization of the portion of the Federal Channel
- Estimated project cost for additional improvements including waterside improvements: approximately \$4.1 million
- Comparative cost basis, including opportunity cost land: **approximately \$4.3 million**



# 65-65R Rogers Street (I4C2 Site, City-Owned)

- Owned by the City of Gloucester
- Excellent landside access from Rogers Street
- Good waterside access and visibility (would need a reconfiguration of docking area)
- Inside DPA boundary
- Site is within the FEMA 100-year flood plain

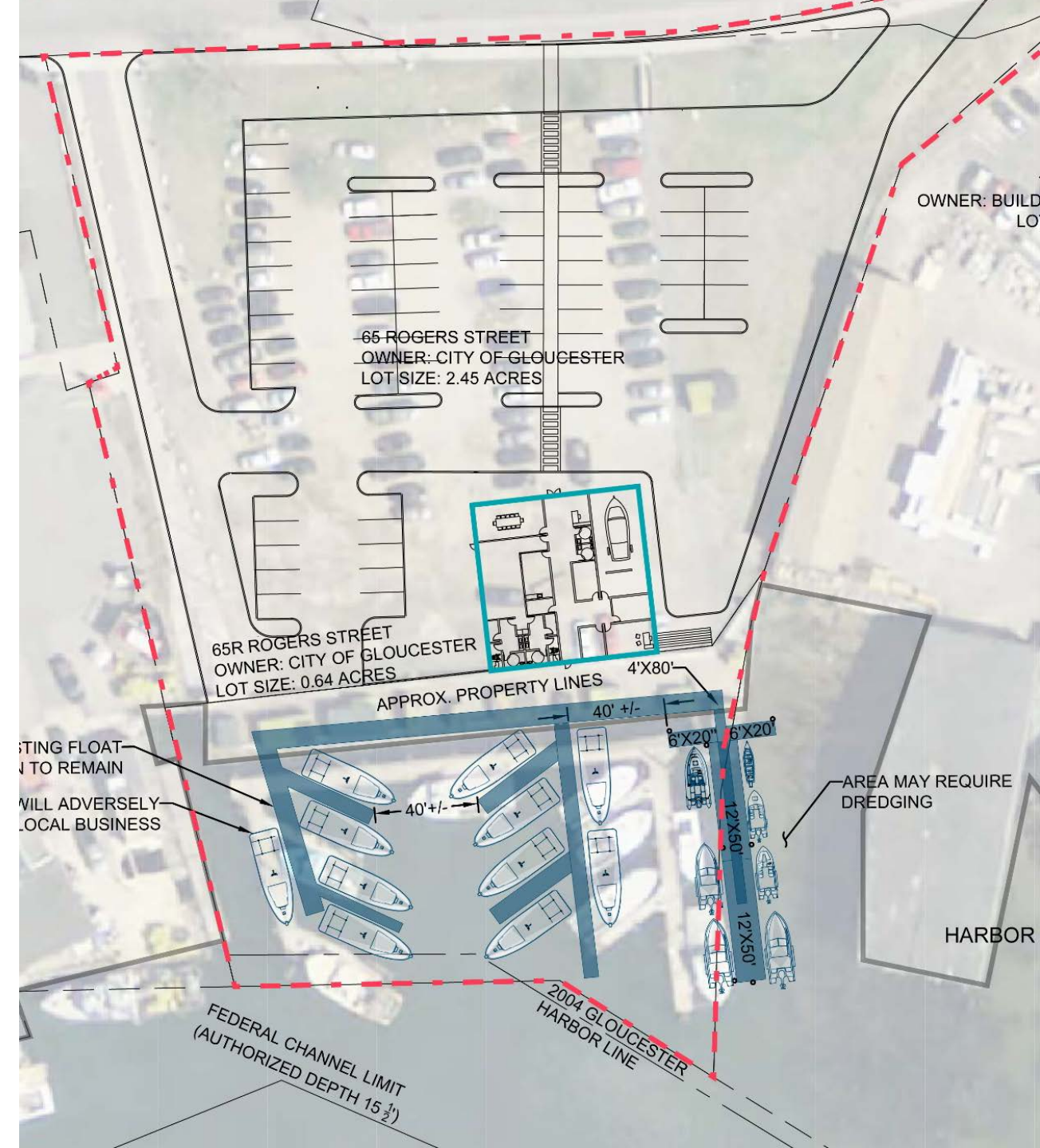
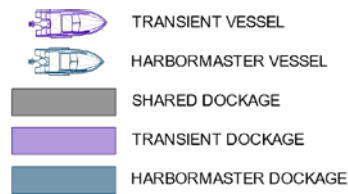


PHOTO CREDIT: CLE ENGINEERING



# 65-65R Rogers Street (I4C2 Site, City-Owned)

- Adequate space for landside facilities
- Proximity to Gloucester Downtown
- Requires reconfiguring existing commercial fishing vessel docks
- Insufficient space to accommodate any transient vessels
- Estimated project cost for additional improvements including waterside improvements: approximately \$3.7 million
- Comparative cost basis, including opportunity cost land: **approximately \$3.9 million**





# 417 Main Street

(Potentially Available for Rent)

- Privately-owned, potentially available for rent
- Good landside access and visibility from Main Street
- Limited waterside access (no floating docks available)
- Inside DPA boundary
- Site is within the FEMA 100-year flood plain

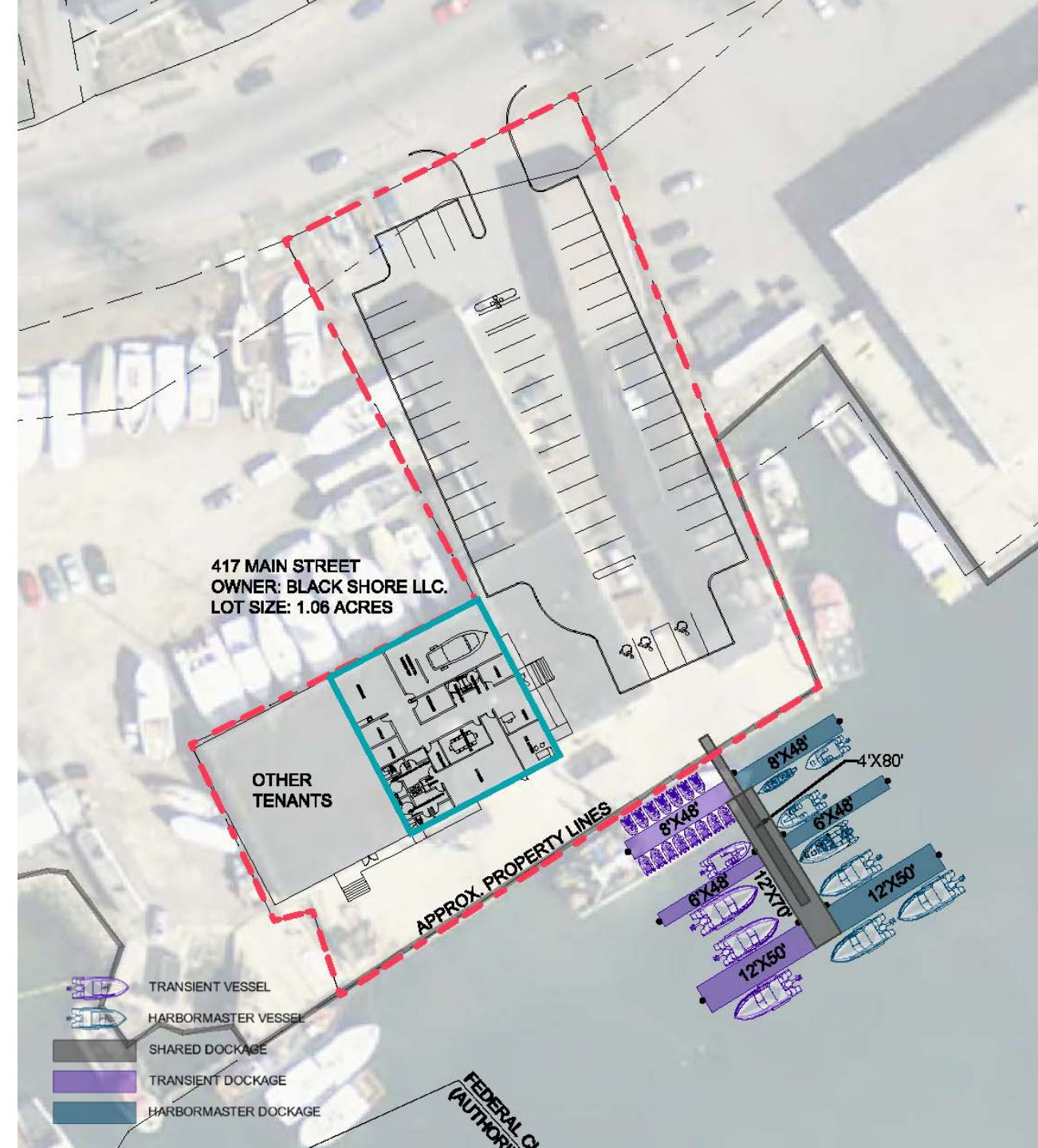




# 417 Main Street

## (Potentially Available for Rent)

- Adequate space for landside facilities
- May require relocation of commercial fishing vessels dockage
- High waterside infrastructure costs
- Sufficient space to accommodate 4 transient vessels and 15 dinghies
- Estimated project cost for additional improvements including waterside improvements: approximately \$2.1 million
- Comparative cost basis, including net present value of 30-year lease: **approximately \$3.1 million**





# 6 Cripple Cove Lane

## (Potential New Acquisition)

- Privately-owned, potentially available for sale
- Good landside access and visibility from East Main Street (relatively far from Downtown)
- Good waterside access (existing floating dock system)
- Outside of DPA boundary
- Site is within the FEMA 100-year flood plain



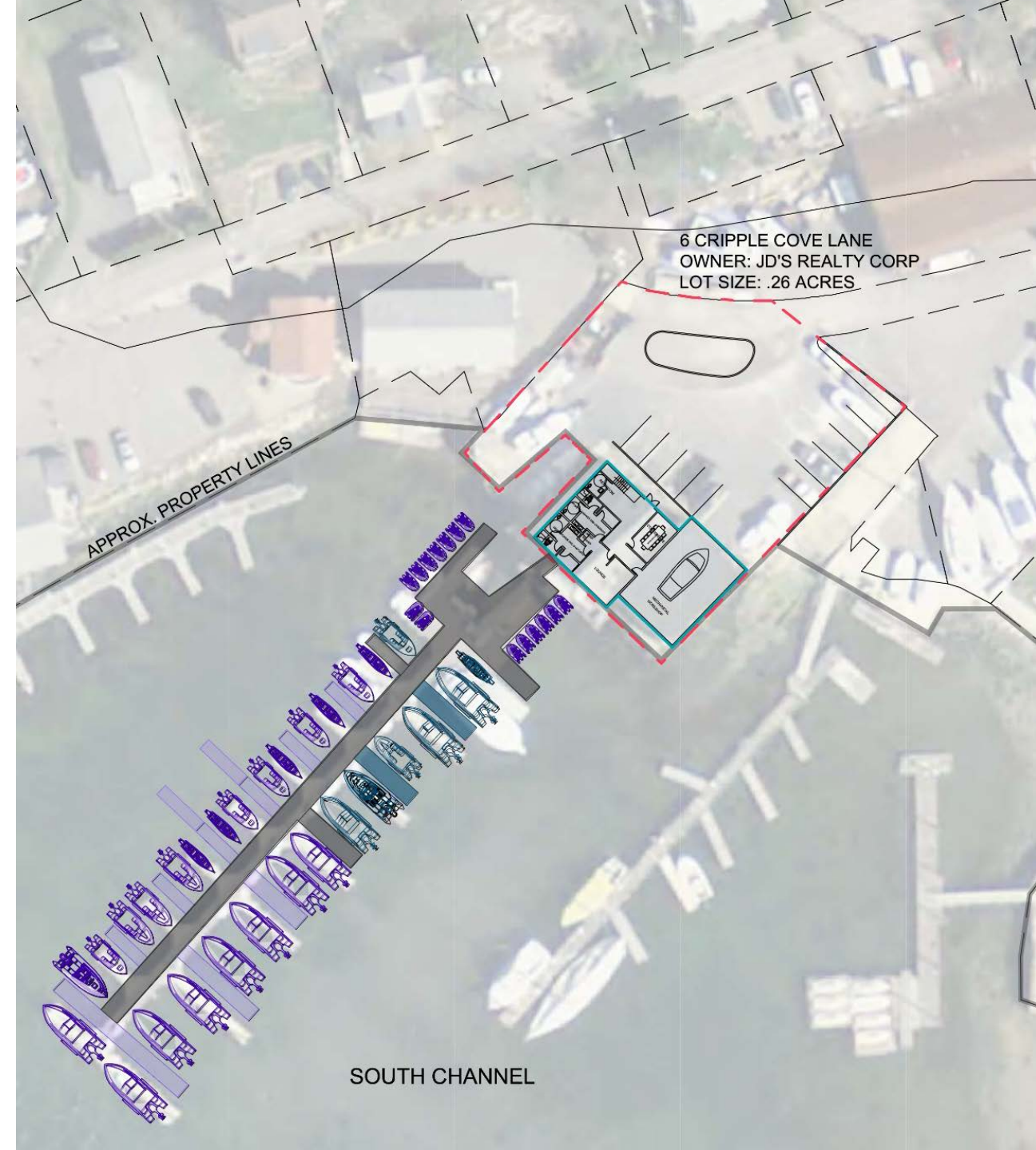
PHOTO CREDIT: CLE ENGINEERING





# 6 Cripple Cove Lane (Potential New Acquisition)

- Adequate space for landside facilities
- Located on the northern end of the harbor
- High acquisition cost
- Potential revenue generating opportunities
- Sufficient space to accommodate Harbormaster owned boats and additional 18 transient vessels and 15 dinghies
- Estimated project cost for additional improvements: approximately \$1.1 million
- Comparative cost basis, including acquisition cost: **approximately \$3.6 million**





# Evaluation Criteria and Draft Evaluation

- *Financial, operational, civic factors evaluation criteria established in discussion with City staff*
- *Weight criteria established for multiple factors based on the scale of low to high priority (low priority – 1 and high priority – 5) to the function and operations of the Harbormaster and visiting boater facility*
- *Each site based on comparative evaluations assigned a base score from 0 to 10 for individual factors*
- *Weight criteria and individual base scores utilized to develop overall Weighted Score*

# Evaluation Criteria and Draft Evaluation

- Existing waterside improvements, visibility from harbor, lease breakup, and ability to accommodate waterside program weigh in favor of the 19 Harbor Loop site
- 65-65R Rogers Street (I4C2 Parcel) and 6 Cripple Cove Lane are potentially competitive sites due to their ability to accommodate Harbormaster's operations and visiting boater center facilities including additional slips.
- Financial factors weigh strongly in favor of 19 Harbor Loop site with low capital costs

Ranking Criteria	Weight	19 Harbor Loop		104 Commercial Street		112 Commercial Street		65-65R Rogers Street		417 Main Street		6 Cripple Cove Lane	
		Base Score 0(poor) - 10(good)											
	Low Priority 1 - High Priority5	Base Score	Weighted Score	Base Score	Weighted Score	Base Score	Weighted Score	Base Score	Weighted Score	Base Score	Weighted Score	Base Score	Weighted Score
FINANCIAL FACTORS													
Capital Cost	5	10	50	0	0	2	10	4	20	8	40	6	30
Eligibility for Funding and Grants	4	8	32	2	8	6	24	6	24	2	8	2	8
Operating Costs	3	8	24	6	18	6	18	6	18	6	18	8	24
Life Cycle Costs	2	6	12	8	16	8	16	8	16	8	16	6	12
Potential for Revenues	1	8	8	4	4	0	0	4	4	6	6	10	10
HARBORMASTER FACILITY OPERATIONAL FACTORS													
Supports Waterside Operational Needs	5	10	50	6	30	4	20	6	30	8	40	10	50
Provides Landside Operational Needs	5	8	40	10	50	10	50	10	50	8	40	8	40
Supports Convenient Public Access and Interactions	5	8	40	10	50	10	50	10	50	10	50	8	40
Supports Convenient Waterside Access and Use	5	10	50	6	30	4	20	8	40	8	40	10	50
Does Not Displace Other Existing or Potential Uses	5	10	50	6	30	10	50	6	30	6	30	0	0
Provides Visibility Towards the Harbor	4	10	40	8	32	6	24	6	24	6	24	6	24
Is Visible From the Harbor	4	10	40	8	32	6	24	6	24	6	24	6	24
Adaptable to Seasonal Changes in Operations and Needs	2	10	20	10	20	8	16	10	20	10	20	10	20
Adaptable to Changing Needs Overtime	2	8	16	6	12	6	12	8	16	6	12	8	16
VISITOR BOATER FACILITIES													
Provides Adequate Slips/Mooring Facilities	5	10	50	6	30	6	30	6	30	8	40	10	50
Supports Launch Access to Moorings	5	10	50	10	50	10	50	10	50	8	40	8	40
Provides Adequate Landside Facilities	4	10	40	10	40	10	40	10	40	10	40	8	32
Provides Convenient Access to City's Amenities	4	10	40	8	32	8	32	10	40	6	24	2	8
Potential for Expansion of Slips and Mooring Facilities	3	6	18	0	0	0	0	4	12	0	0	10	30
CIVIC AND COMMUNITY DEVELOPMENT FACTORS													
Contributes to the Image and Character of the Harbor	3	10	30	6	18	6	18	10	30	4	12	8	24
OTHER FACTORS													
Compatibility with DPA Uses	5	10	50	8	40	8	40	8	40	8	40	10	50
Low Environmental Impacts and Cost of Remediation/Mitigation	4	10	40	6	24	6	24	10	40	10	40	10	40
Risk Associated with Flooding and Resiliency Planning	4	8	32	8	32	6	24	10	40	10	40	8	32
Phasing of Improvements Can Be Readily Accomplished	3	10	30	10	30	10	30	8	24	10	30	10	30
Can Be Easily Permitted	3	8	24	8	24	8	24	8	24	10	30	10	30
TOTAL WEIGHED SCORE			876		652		646		736		704		714

**Notes:** Base scores range from 0 to 10 for all potential sites, and are based on comparative evaluations separately from the weighting criteria

A high base score is the most beneficial to City goals; a low base score is less beneficial relative to City goals

The scores for capital costs are based on preliminary cost estimates, the degree of benefit is inversely proportional to the cost; low costs are better than high costs

The lowest cost for a facility is assigned a base score of 10, and the highest cost facility is assigned a base cost of 0



# Evaluation Criteria and Draft Evaluation

RANKING CRITERIA	19 Harbor Loop	104 Commercial Street	112 Commercial Street	65-65R Rogers Street	417 Main Street	6 Cripple Cove Lane
	Base Score 0(poor) - 10(good)					
Low Priority 1 - High Priority 5	Weighted Score	Weighted Score	Weighted Score	Weighted Score	Weighted Score	Weighted Score
<b>FINANCIAL FACTORS</b>	<b>126</b>	<b>46</b>	<b>68</b>	<b>82</b>	<b>88</b>	<b>84</b>
<b>HARBORMASTER FACILITY OPERATIONAL FACTORS</b>	<b>346</b>	<b>286</b>	<b>266</b>	<b>284</b>	<b>280</b>	<b>264</b>
<b>VISITOR BOATER FACILITIES</b>	<b>198</b>	<b>152</b>	<b>152</b>	<b>172</b>	<b>144</b>	<b>160</b>
<b>CIVIC AND COMMUNITY DEVELOPMENT FACTORS</b>	<b>30</b>	<b>18</b>	<b>18</b>	<b>30</b>	<b>12</b>	<b>24</b>
<b>OTHER FACTORS</b>	<b>176</b>	<b>150</b>	<b>142</b>	<b>168</b>	<b>180</b>	<b>182</b>
<b>TOTAL WEIGHED SCORE</b>	<b>876</b>	<b>652</b>	<b>646</b>	<b>736</b>	<b>704</b>	<b>714</b>

# Thank you

- 19 Harbor Loop (current Harbormaster facility)
- 104 Commercial Street (Cape Pond Ice)
- 112 Commercial Street
- 65-65R Rogers Street (I4C2 Parcel)
- 417 Main Street
- 6 Cripple Cove Lane

